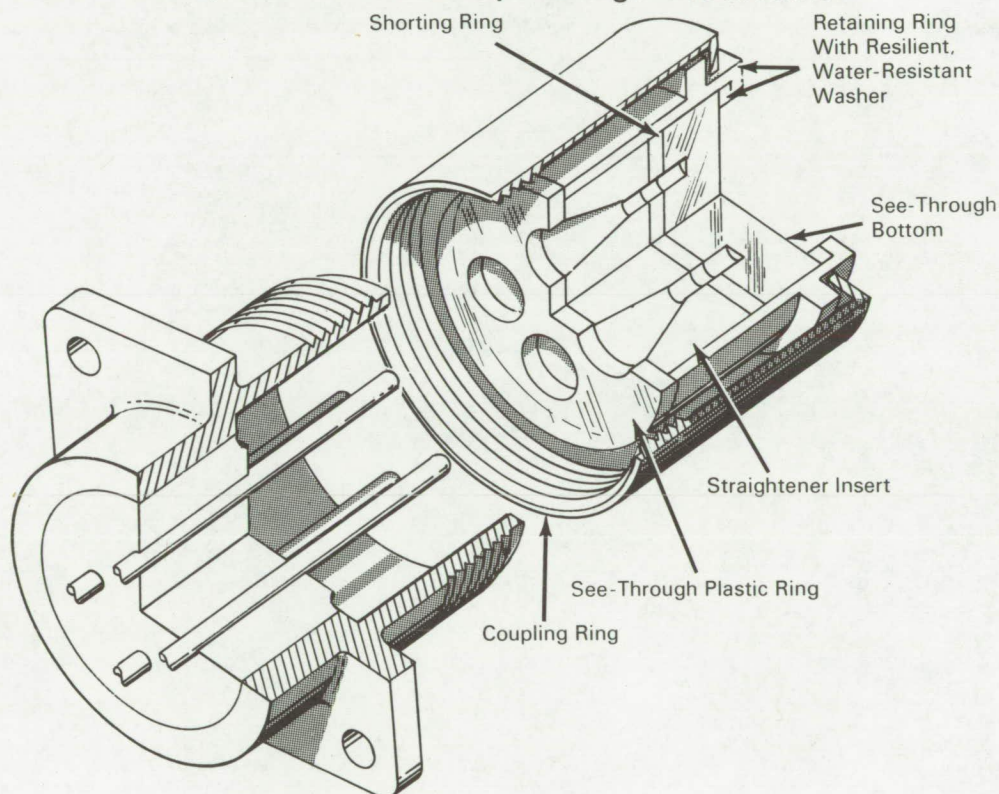


NASA TECH BRIEF



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Connector Shorting Cap Provides Pin Alignment, Inspection, and Stray Voltage Protection



The problem:

To design an electrical connector cap which provides pin alignment, protection from stray voltages, and inspection capabilities. Existing methods use simple slip-on plastic covers or shorting caps, but these covers do not compensate for pin misalignment.

The solution:

An electrical shorting cap, with a teflon straightener insert and a clear plastic bottom, provides physical and electrical protection to the connector pins. A pin

alignment or straightener insert is built in to overcome any problems with bent or misaligned pins. A see-through bottom allows for inspection of the presence and condition of the pins.

How it's done:

The connector shorting cap consists of a clear plastic front plate attached to a teflon straightener insert. A shorting plate and a second clear plastic plate are attached to the straightener bottom. The mating holes, for the connector pins, expanded at

(continued overleaf)

the mouth to permit entry of bent pins, extend through the front plate, teflon insert, and shorting plate, terminating in the clear plastic bottom. After being placed on the connector, the cap is secured by a coupling ring which screws onto the connector, forcing the pins into the mating holes.

Notes:

1. If moisture in the connector would pose a frequent problem, a humidity indicator can easily be incorporated in the cap design.
2. This connector could have widespread industrial applications, in particular with explosives such as hot-wire initiators.

3. This development is in conceptual stage only, and, as of date of publication of this Tech Brief, neither a model nor prototype has been constructed.

Patent status:

No patent action is contemplated by NASA.

Source: K. Warming and G. A. Peters
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